

FIG. 1A

ttatgcaaga aactgttgaa ttagaccctgt ttcctataga tgagaaacca tacaagctgt
 ggtatttatg agcctccatt tcttatacta ctgcagtga ccaacattgg atgtgaaaat
 tgccttttgt cagggattcg ataaacaagt ggatgtgtca tatattgcca aacattācaa
 catgagcaaa agcaaagttg acaaccagtt ctacagtgtg gaagtgggag actcaacctt
 cacagttctc aagcgctacc agaactctaa gcctattggc tctggggctc agggcatagt
 ttgtgccgcg tatgatgctg tccttgacag aaatgtggcc attaagaagc tcagcagacc
 ctttcagaac caaacacatg ccaagagagc gtaccgggag ctggtcctca tgaagtgtgt
 gaaccataaa aacattatta gtttatttaa tgtcttcaca cccagaaaa cgctggagga
 gttccaagat gtttacttag taatggaact gatggatgcc aacttatgtc aagtgattca
 gatggaatta gaccatgagc gaatgtctta cctgctgtac caaatgttgt gtggcattaa
 gcacctccat tctgctggaa ttattcacag ggatttaaaa ccaagtaaca ttgtagtcaa
 gtctgattgc acattgaaaa tcctggactt tggactggcc aggacagcag gcacaagctt
 catgatgact ccatatgtgg tgacacgtta ttacagagcc cctgagggtca tcctggggat
 gggctacaag gagaacgtgg atatatggtc tgtgggatgc attatgggag aaatgggttcg
 ccacaaaatc ctctttccag gaagggacta tattgaccag tggaataagg taattgaaca
 actaggaaca ccatgtccag aattcatgaa gaaattgcaa cccacagtaa gaaactatgt
 ggagaatcgg cccaagtatg cgggactcac cttcccaaaa ctcttccag attcctctt
 cccagcggac tccgagcaca ataaactcaa agccagccaa gccagggact tgttgtcaaa
 gatgctagtg attgaccag caaaaagaat atcagtggac gacgccttac agcatcccta
 catcaacgtc tggatatgacc cagccgaagt ggaggcgcct ccacctcaga tatatgacaa
 gcagttggat gaaagagAAC acacaattga agaattgaaa gaacttatct acaaggaagt
 aatgaattca gaagaaaaga ctaaaaatgg tgtagtataa ggacagcctt ctcttcagg
 tgcagcagtg aacagcagtg agagtctccc tccatcctcg tctgtcaatg acatctctc
 catgtccacc gaccagaccc tggcatctga cactgacagc agcctggaag cctcggcagg
 acccctgggt tgttgcaggt gactagccgc ctgcctgcga aaccagcgt tcttcaggag
 atgat (SEQ ID NO:1)

FIG. 1B

MSLHFLYYCSEPTLDVKIAFCQGFQVDVSYIAKHYNMSKSKVDNQFY SVEVG DSTFTVL
KRYQNLKPIGSGAQGIVCAAYDAVLDRNVAIKKLSRPFQNTAKRAYRELVL MKCVNHKN
IISLLNVFTPQKTLEEFQDVYLVME LMDANLCQVIQMELDHERMSYLLYQMLCGIKHLHSA
GIIHRDLKPSNIVVKS DCTLKILDFGLARTAGTSFMMPYVVTRYRAPEVILGMGYKENV
DIWSVGCIMGEMVRHKILFPGRDYIDQWNKVIEQLGTPCPEFMKKLQPTVRNYVENRPKYA
GLTFPKLFPDSLFPADSEHNKLKASQARDLLSKMLVIDPAKRISVDDALQHPYINWYDPA
EVEAPPPQIYDKQLDEREHTIEEWKELIYKEVMNSEEKTKNGVVKGQPSPSGA AVNSSESL
PPSSSVNDISSMSTDQTLASDT DSSLEASAGPLGCCR (SEQ ID NO: 2)

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FIG. 1C

GAGAAATGGCGTGGCAGGGGACCCAGCGAGCCCAGAGGGATTTTGCCGCTGCTTCCTCTAC
CCCTGTATTTTACGCAGCTCTCTAAATTGACTCAGCTCCAGGCTAGTGTGAGAAACACCAA
CAGCAGGCCCATCTCAGATCTTCACTATGGCAACTTATGCAAGAACTGTTGAATTAGACC
CGTTTCCTATAGATGAGAAACCATAACAAGCTGTGGTATTTATGAGCCTCCATTTCTTATAC
TACTGCAGTGAACCAACATTGGATGTGAAAATTGCCTTTTGTGAGGGATTGATAAACAAAG
TGGATGTGTCATATATTGCCAAACATTACAACATGAGCAAAAGCAAAGTTGACAACCAGTT
CTACAGTGTGGAAGTGGGAGACTCAACCTTTCAGAGTTCTCAAGCGCTACCAGAATCTAAAG
CCTATTGGCTCTGCGGCTCAGGGCATAGTTTGTGCGCGTATGATGCTGTCCTTGACAGAA
ATGTGGCCATTAAAGAAGCTCAGCAGACCCCTTTCAGAACCAAACACATGCCAAGAGAGCGTA
CCGGGAGCTGGTCTCATGAAGTGTGTGAACCATAAAAAACATTATTAGTTTATTAAATGTC
TTCACACCCCCAGAAAACGCTGGAGGAGTTCCAAGATGTTTACTTAGTAATGGAAGTATGG
ATGCCAACTTATGTCAAGTGATTGAGATGGAATTAGACCATGAGCGAATGTCTTACCTGCT
GTACCAAATGTTGTGTGGCATTAAAGCACCTCCATTCTGCTGGAATTATTACAGGGATTTA
AAACCAAGTAACATTGTAGTCAAGTCTGATTGCACATTGAAAATCCTGGACTTTGGACTGG
CCAGGACAGCAGGCACAAGCTTCATGATGACTCCATATGTGGTGACACGTTATTACAGAGC
CCCTGAGGTCATCCTGGGGATGGGCTACAAGGAGAACGTGGATATATGGTCTGTGGGATGC
ATTATGGGAGAAATGGTTCGCCACAAAATCCTCTTTCAGGAAGGGACTATATTGACCACT
GGAATAAGGTAATTGAACAACCTAGGAACACCATGTCCAGAATTCATGAAGAAATTGCAACC
CACAGTAAGAACTATGTGGAGAATCGGCCCAAGTATGCGGGACTCACCTTCCCCAACTC
TTCCCAGATTCCCTCTTCCCAGCGGACTCCGAGCACATAAACTCAAAGCCAGCCAAGCCA
GGGACTTGTTGTCAAAGATGCTAGTGATTGACCCAGCAAAAAGAATATCAGTGGACGACGC
CTTACAGCATCCCTACATCAACGTCTGGTATGACCCAGCCGAAGTGGAGGCGCTCCACCT
CAGATATATGACAAGCAGTTGGATGAAAGAGAACACACAATTGAAGAATGGAAAGAACTTA
TCTACAAGGAAGTAATGAATTGAGAAGAAAAGACTAAAAATGGTGTAGTAAAAGGACAGCC
TTCTCCTTCAGGTGCAGCAGTGAACAGCAGTGAGAGTCTCCCTCCATCCTCGTCTGTCAAT
GACATCTCCTCCATGTCCACCGACCAGACCCTGGCATCTGACACTGACAGCAGCCTGGAAG
CCTCGGCAGGACCCCTGGGTTGTTGCAGGTGACTAGCCGCTGCCTGCGAAACCCAGCGTT
CTTCAGGAGATGATGTGATGGAACACACACACACGACACACACACACACAAATGCA
GACACACAACATCAAGAAAACAGCAAGGGAGAGAATCCAAGCCTAAAATTAAATAAATCTT
TCAGCCTGCTTCTTCCCCAGGGTCTGTATTGCAGCTAAGCTCAAATGTATATTTAACTTC
TAGTTGCTCTTGCTTTGGTCTTCTTCCAATGATGCTTACTACAGAAAGCAAATCAGACACA
ATTAGAGAAGCCTTTTCCATAAAGTGTAATTTTAATGGCTGCAAAACCGGCAACCTGTAAC
TGCCCTTTTAAATGGCATGACAAGGTGTGAGTGGCCCCATCCAGCATGTGTGTGTCTCTA
TCTTGCATCTACCTGCTCCTTGGCCTAGTCAGATGGATGTAGATACAGATCCGCATGTGTC
TGTATTACATACAGCACTACTTACTTAGAGATGCTACTCTCAGTGTCTCAGGGCTCTACCA
AGACATAATGCACTGGGGTACCACATGGTCCATTTTCATGTGATCTATTACTCTGACATAAA
CCCATCTGTAATATATTGCCAGTATATAAGCTGTTTGTGTTAATTGATTAACTGTAT
GTCTTATAAGAAAACATGTAAAGGGGGAATATATTGGGGGAGTGAGCTCTCTCAGACCCTT
GAAGATGTAGCTTCCAAATTTGAATGGATTAAATGGCACCTGTATACCA (SEQ ID NO:3)

GAGAAATGGCGTGGCAGGGGACCCAGCGAGCCCAGAGGGATTTTGCCGCTGCTTCCTCTAC

DRAFT

2A



agcctaaaat taaataaatc tttcagcctg cttcttcccc agggttctgt attgcagcta
agctcaaattg tatatttaac ttctagttgc tcttgctttg gtcttcttcc aatgatgctt
actacagaaa gcaaattcaga cacaattaga gaa. (SEQ ID NO:4)

[illegible]

FIG. 2C

MSLHFLYYCSEPTLDVKIAFCQGFDKQVDVSYIAKHYNMSKSKVDNQFY SVEVG DSTFTVL
KRYQNLKPIGSGAQGIVCAA YDAVLDRNVAIKKLSRPFQNT HAKRAYREL VLMKCVNHKN
IISLLNVFTPQKTLEEFQDVYLVME LMDANLCQVIQMELDHERMSYLLYQMLCGIKHLHSA
GIIHRDLKPSNIVVKSDCTLKILDFGLARTAGTSFMMTPYVVTRY YRAPEVILGMGYKENV
DIWSVGCIMGEMVRHKILFPGRDYIDQWNKVIEQLGTPCPEFMKKLQPTVRNYVENRPKYA
GLTFPKLFPDSLFPADSEHNKLKASQARDLLSKMLVIDPAKRISVDDALQHPYINVWYDPA
EVEAPPPQIYDKQLDEREHTIEEWKELIYKEVMNSEEKTNGVVKGQPSPSAQVQQ (seq no: 5)

09165522 100238

FIG. 2D

GAGAAATGGCGTGGCAGGGGACCCAGCGAGCCCAGAGGGATTTTGCCGCTGCTTCCTCTAC
CCCTGTATTTACGCAGCTCTCTAAATTGACTCAGCTCCAGGCTAGTGTGAGAAACACCAA
CAGCAGGCCCATCTCAGATCTTCACTATGGCAACTTATGCAAGAACTGTTGAATTAGACC
CGTTTCCTATAGATGAGAAACCATAACAAGCTGTGGTATTTATGAGCCTCCATTTCTTATAC
TACTGCAGTGAACCAACATTGGATGTGAAAATTGCCTTTTGTGAGGGATTGATAAACAAAG
TGGATGTGTCATATATTGCCAAACATTACAACATGAGCAAAAGCAAAGTTGACAACCAGTT
CTACAGTGTGGAAGTGGGAGACTCAACCTTCACAGTTCTCAAGCGCTACCAGAATCTAAAG
CCTATTGGCTCTGGGGCTCAGGGCATAGTTTGTGCCGCGTATGATGCTGTCTTGACAGAA
ATGTGGCCATTAAGAAGCTCAGCAGACCCTTTCAGAACCAAACACATGCCAAGAGAGCGTA
CCGGGAGCTGGTCTCATGAAGTGTGTGAACCATAAAAACATTATTAGTTTATTAAATGTC
TTCACACCCCAGAAAACGCTGGAGGAGTTCCAAGATGTTTACTTAGTAATGGAAGTATGG
ATGCCAACTTATGTCAAGTGATTCAGATGGAATTAGACCATGAGCGAATGTCTTACCTGCT
GTACCAAATGTTGTGTGGCATTAAAGCACCTCCATTCTGCTGGAATTATTACAGGGGATTTA
AAACCAAGTAACATTGTAGTCAAGTCTGATTGCACATTGAAAATCCTGGACTTTGGACTGG
CCAGGACAGCAGGCACAAGCTTCATGATGACTCCATATGTGGTGACACGTTATTACAGAGC
CCCTGAGGTCATCCTGGGGATGGGCTACAAGGAGAACGTGGATATATGGTCTGTGGGATGC
ATTATGGGAGAAATGGTTCGCCACAAAATCCTCTTTCAGGAAGGGACTATATTGACCAGT
GGAATAAGGTAATTGAACAACCTAGGAACACCATGTCCAGAATTCATGAAGAAATTGCAACC
CACAGTAAGAACTATGTGGAGAATCGGCCCAAGTATGCGGGACTCACCTTCCCCAAACTC
TTCCCAGATTCCCTCTTCCCAGCGGACTCCGAGCACAATAAACTCAAAGCCAGCCAAGCCA
GGGACTTGTTGTCAAAGATGCTAGTGATTGACCCAGCAAAAAGAATATCAGTGAGACGACGC
CTTACAGCATCCCTACATCAACGTCTGGTATGACCCAGCCGAAGTGGAGGCGCCTCCACCT
CAGATATATGACAAGCAGTTGGATGAAAGAGAACACACAATTGAAGAATGGAAAGAACTTA
TCTACAAGGAAGTAATGAATTCAGAAGAAAAGACTAAAAATGGTGTAGTAAAAGGACAGCC
TTCTCCTTCAGCACAGGTGCAGCAGTGAACAGCAGTGAGAGTCTCCCTCCATCCTCGTCTG
TCAATGACATCTCCTCCATGTCCACCGACCAGACCCTGGCATCTGACACTGACAGCAGCCT
GGAAGCCTCGGCAGGACCCCTGGGTTGTTGCAGGTGACTAGCCGCCTGCCTGCGAAACCCA
GCGTTCTTCAGGAGATGATGTGATGGAACACACACACACGCAGACACACACACACACAA
ATGCAGACACACAACATCAAGAAAACAGCAAGGGAGAGAATCCAAGCCTAAAATTAAATAA
ATCTTTCAGCCTGCTTCTTCCCCAGGGTTCTGTATTGCAGCTAAGCTCAAATGTATATTTA
ACTTCTAGTTGCTCTTGCTTTGGTCTTCTTCCAATGATGCTTACTACAGAAAGCAAATCAG
ACACAATTAGAGAAGCCTTTTCCATAAAGTGTAATTTTAATGGCTGCAAAACCGGCAACCT
GTAAGTGCCTTTTAAATGGCATGACAAGGTGTGCAGTGGCCCCATCCAGCATGTGTGTGT
CTCTATCTTGATCTACCTGCTCCTTGGCCTAGTCAGATGGATGTAGATACAGATCCGCAT
GTGTCTGTATTATACAGCACTACTTACTTAGAGATGCTACTCTCAGTGTCTCAGGGCTC
TACCAAGACATAATGCACTGGGGTACCACATGGTCCATTTTATGTGATCTATTACTCTGAC
ATAAACCCATCTGTAATATATTGCCAGTATATAAGCTGTTTGTGTTAATTGATTAAAC
TGTATGTCTTATAAGAAAACATGTAAAGGGGAATATATTGGGGGAGTGAGCTCTCTCAGA
CCCTTGAAGATGTAGCTTCAAATTTGAATGGATTAAATGGCACCTGTATACCA (seq ID No: 6)

GAGAAATGGCGTGGCAGGGGACCCAGCGAGCCCAGAGGGATTTTGCCGCTGCTTCCTCTAC

gagaaatggc gtggcagggg acccagcgag cccagagggg ttttgccgct gcttcctcta
ccctgtatt tcacgcagct ctctaaattg actcagctcc aggctagtgt gagaaacacc
aacagcaggg ccattctcaga tcttcactat ggcaacttat gcaagaaact gttgaattag
acccgtttcc tatagatgag aaaccataca agctgtggta tttatgagcc tccatttctt
atactactgc agtgaaccaa cattggatgt gaaaattgcc ttttgtcagg gattcgataa
acaagtggat gtgtcatata ttgccaaaca ttacaacatg agcaaaagca aagttgacaa
ccagttctac agtgtggaag tgggagactc aaccttcaca gttctcaagc gctaccagaa
tctaaagcct attggctctg gggctcaggg catagtttgt gccgcgtatg atgctgtcct
tgacagaaat gtggccatta agaagctcag cagacccttt cagaaccaa cacatgccaa
gagagcgta cgggagctgg tctcatgaa gtgtgtgaac cataaaaaca ttattagttt
attaaatgtc ttcacacccc agaaaacgct ggaggagtgc caagatgttt acttagtaat
ggaactgatg gatgccaaact tatgtcaagt gattcagatg gaattagacc atgagcgaat
gtcttacctg ctgtaccaa tggtgtgtgg cattaagcac ctccattctg ctggaattat
tcacagggat ttaaaaccaa gtaacattgt agtcaagtct gattgcacat tgaaaatcct
ggactttgga ctggccagga cagcaggcac aagcttcatg atgactccat atgtgggtgac
acgttattac agagcccctg aggtcactct ggggatgggc tacaaggaga acgtggatat
atggtctgtg ggatgcatta tgggagaaat ggttcgccac aaaatcctct tccaggaag
ggactatatt gaccagtgga ataaggtaat tgaacaacta ggaacaccat gtccagaatt
catgaagaaa ttgcaacca cagtaagaaa ctatgtggag aatcggccca agtatgcggg
actcaccttc cccaaactct tcccagattc cctcttcca gccgactccg agcacaataa
actcaaagcc agccaagcca gggacttgtt gtcaaagatg ctagtgattg acccagcaaa
aagaatatca gtggacgacg ccttacagca tccctacatc aacgtctggt atgaccagc
cgaagtggag gcgcctccac ctcatatata tgacaagcag ttggatgaaa gagaacacac
aattgaagaa tggaagaac ttatctacaa ggaagtaatg aattcagaag aaaagactaa
aatgggtgta gtaaaaggac agccttctcc ttcagcacag gtgcagcagt gaacagcagt
gagagtctcc ctccatcctc gtctgtcaat gacatctcct ccattgtccac cgaccagacc

36207.223760

FIG. 3B

ctggcatctg acactgacag cagcctggaa gcctcggcag gacccctggg ttgttgacagg
tgactagccg cctgcctgcg aaacccagcg ttcttcagga gatgatgtga tggaacacac
acacacgcag acacacacac acacacaaat gcagacacac aacatcaaga aaacagcaag
ggagagaatc caagcctaaa attaaataaa tctttcagcc tgcttcttcc ccagggttct
gtattgcagc taagctcaaa tgtatattta acttctagtt gctcttgctt tggctcttct
ccaatgatgc ttactacaga aagcaaatca gacacaatta gagaagcctt ttccataaag
tgtaatttta atggctgcaa aaccggcaac ctgtaactgc ccttttaaat ggcatgacaa
ggtgtgcagt ggcccatcc agcatgtgtg tgtctctatc ttgcatctac ctgctccttg
gcctagtcag atggatgtag atacagatcc gcatgtgtct gtattcatac agcactactt
acttagagat gctactctca gtgtcctcag ggctctacca agacataatg cactggggta
ccacatggtc catttcatgt gatctattac tctgacataa acccatctgt aatatattgc
cagtatataa gctgttttagt ttgttaattg attaaactgt atgtcttata agaaaacatg
taaaggggga atatatggg ggagtgaact ctctcagacc cttgaagatg tagcttccaa
atttgaatgg attaaatggc acctgtatac ca (SEQ ID NO: 7)

362001-362001

MSLHFLYYCSEPTLDVKIAFCQGFQVDVSYIAKHYNMSKSKVDNQFY SVEVG DSTF
TVLKRYQNLKPIGSGAQQIVCAAYDAVLDRNVAIKKLSRPFQNT HAKRAYRELVL MK
CVNHKNIISLLNVFTPQKTLEEFQDVYLVME LMDANLCQVIQMELDHERMSYLLYQML
CGIKHLHSAGIIHRDLKPSNIVVKS DCTLKILD FGLARTAGTSFM MTPYVVTRY YRAP
EVILGMGYKENVDIWSVGCIMGEMVRHKILFPGRDYIDQWNKVIEQLGTPCPEFMKKL
QPTVRNYVENRPKYAGLTFPKLFPDSLFPADSEHNKLKASQARDLLSKMLVIDPAKRI
SVDDALQHPYINVWYDPAEVEAPPPQIYDKQLDEREHTIEEWKELIYKEVMNSEKTK
NGVVKGQPSPSAQVQQ (SEQ ID NO: 8)

363007 2253760

CCCTCCTTATTCCGGTTTGAATGTGGCTAATGAAAGCCAGTAGGAGGATTTCTGGGGCA
AACAGGTGGACCAGGATCCTGGTTCTCAGGCACGGAATGGCTATTGTGAGAGCGCCACCAG
CAGGACCATCGCAGATCTTGGTTATGGCTGCTCACGCAAGAGGCTGTTGATGTAGACCCCC
TTTCCCGTAGATGAGAAATCACACGAGCAGTGGTATTTATGAGCCTCCATTTCTTATACTA
CTGCAGTGAACCAACCTTGGATGTGAAAATTGCCTTTTGTTCAGGTGTGTGTTCCCTTACAGG
TAAAACAAAGGGATTTCGACAAACACGTGGATGTGTCTTCTGTTGTCAAACATTACAACATG
AGCAAAAGCAAGGTAGATAACCAGTTCTACAGTGTGGAAGTGGGAGACTCAACCTTCACAG
TTCTAAAGCGCTACCAGAACCTGAAGCCGATCGGCTCTGGGGCTCAGGGAATAGTTTGTGC
TGCGTATGACGCTGTCTCTCGACAGAAATGTGGCCATTAAGAAGCTCAGCAGACCCTTCCAG
AACCAAACCTCATGCCAAGAGGGGCTTACCGGGAGCTGGTCCTCATGAAGTGTGTGAACCATA
AAAACATTATTAGCTTATTAAATGTCTTTACACCCCAAGAAACACTGGAGGAGTTCCAAGA
TGTTTACTTAGTGATGGAACCTGATGGACGCCAACTTGTGTTCAGGTGATTCAGATGGAGCTG
GACCACGAGCGGATGTGCTACTTGTGTACAGATGCTGTTCGGCGATCAAACACCTCCACT
CCGCTGGGATCATCCACAGGGACTTAAACCCAGTAACATCGTAGTCAAGTCTGATTGCAC
ACTGAAAATCCTGGACTTTGGACTGGCCAGGACAGCGGGCACAAGCTTCATGATGACTCCG
TATGTGGTGACGAGATATTACAGAGCCCCGAGGTCATCCTGGGCATGGGCTACAAGGAGA
ACGTGGACATATGGTCTGTGGGCTGCATCATGGGAGAAATGGTTCGTCAAAAATCCTCTT
TCCCGGAAGGGACTATATTGACCAGTGGAACAAAGTCATAGAGCAGCTAGGAACTCCGTGT
CCAGAATTCATGAAGAAATTGCAGCCCACCGTCAGAACTACGTGGAGAACCGGCCCAAGT
ATGCAGGCCTCACCTTCCCCAAGCTCTTCCAGATTCCCTCTTCCCAGCGGATTCCGAGCA
CAATAAACTTAAAGCCAGCCAAGCCAGGGACTTGTTGTCAAAGATGTTAGTGATTGACCCA
GCGAAGAGGATATCGGTGGATGACGCATTGCAGCATCCGTACATCAACGTTTGGTACGACC
CTGCTGAAGTGGAGGCGCTCCGCCTCAGATATATGACAAGCAATTGGATGAAAGGGAGCA
CACCATCGAAGAATGGAAAGAACTCATCTACAAGGAAGTAATGAACTCAGAAGAGAAGACT
AAGAACGGCGTAGTCAAAGGCCAGCCCTCACCTTCAGGTGCAGCAGTGAACAGCAGTGAGA
GTCTCCCTCCATCCTCATCTGTCAACGACATCTCCTCCATGTCCACCGACCAGACCCTCGC
ATCCGACACTGACAGCAGCCTGGAAGCCTCGGCGGGACCGCTGGGTTGTTGCAGGTGACTA
GCCGCCTGCCTGCGAAACCCAGCGTTCTTCAGGAGATGACGCCATGATAGAACACAGCGCA
CATGCACACACACAGAGCTTGATACACACACACACACACACACACGACGCACGCACG
CACGCAAGCACGCACGCACGCACAAATGCACTCACGCAATGTCAAGAAAAAAAAAAGTAGC
GAGAGAGAGCGAGAGAGCCAAACGTAAACTAAGTTAAATCTTTCTGCGTGCTTCTCCAGAG
TTCTGTATCGCAGCTGAGCTGAAATGTATACTTAACCTTAGTCGCGCTCGCTCGACTTTG
GTCTCCCTCCGGCAGTGCTTACT

(SEQ ID No: 9)

S520T:225T60

LA

MSKSKVDNQFY SVEVG DSTFTVLKRYQNLKPIGSGAQGIVCAAYDAVLDRNVAIKKLSRPF
QNQTHAKRAYRELVL MKCVNHKNIISLLNVFTPQKTLEEFQDVYLV MELMDANLCQVIQME
LDHERMSYLLYQMLSAIKHLHSAGIIHRDLKPSNIVVKSDCTLKILDFGLARTAGTSFMMT.
PYVVTRY YRAPEVILG MGYKENVDIWSVGCIMGEMVRHKILFPGRDYIDQWNKVIEQLGTP
CPEFMKKLQPTVRNYVENR PKYAGLTFFPKLFPDSLFPADSEHNKLKASQARDLLSKMLVID
PAKRI SVDDALQHPYINVWYDPAEVEAPPPQIYDKQLDEREHTIEEWKELIYKEVMNSEEK
TKNGVVKGQPSPSGAAVNSSSLPPSSSVNDISSMSTDQTLASDTDS SLEASAGPLGCCR

(SEQ ID NO:10)

352007-225260

FIG. 5A

GGGGCTTGAGTGAGCTAAAGATTGGGTCTTCTTGAAATCACCTGTCTGTTATTATTTTAA
AACAAATCGCTACACCTCCAAAGACTCTGCTCCTTACTCCGGTTTGGAATGTGGCTAATGAC
TACCCAGTAGGGAGGATTTCTGGGGCAAACAGCCGACCAGGATCCTAGTTCTCAGGCACG
GAATGGCTATTGTGAGAACAGCACCAGCAGGATCATCGCAGATCTTGGTTATGGCCACTCA
GGCAAGACGCTGTTGAGTTAAGACCCCTTTCCCATAGATGAGAAGCCACAGAAGCAGTGGT
ATTTATGAGCCTCCATTTCTTATACTACTGCAGTGAACCAACCTTGGATGTGAAAATTGCC
TTTTGTCAGGGATTTCGATAAACACGTGGATGTGTCATCTATTGCCAAACATTACAACATGA
GCAAAAGCAAGGTGGACAACCAGTTCTACAGTGTGGAAGTGGGGGACTCAACCTTCACCGT
TCTTAAGCGCTACCAGAACCTGAAGCCAATTGGCTCTGGGGCTCAGGGAATAGTCTGTGCT
GCGTACGACGCTGTCCTTGACAGAAATGTGGCCATTAAGAAGCTCAGCAGACCCTTCCAGA
ACCAAACTCACGCCAAGAGGGCTTACCGGGAGCTGGTGCTCATGAAGTGTGTGAACCATAA
AAACATTATTAGCTTATTAATGTTTTTACACCCAGAAAACGCTGGAGGAGTTCCAAGAT
GTCTACTTAGTGATGGAACCTGATGGACGCCAACCTGTGTGTCAGGTGATTGAGATGGAGCTGG
ACCACGAGCGGATGTCTTACTTGCTGTACCAGATGCTGTGTGGCATCAAGCACCTCCACTC
CGCTGGGATCATCCACAGGGACTTAAAACCCAGTAACATTGTAGTCAAGTCTGATTGCACA
CTGAAAATCCTCGACTTCGGACTGGCCAGGACAGCGGGTACAAGCTTCATGATGACTCCGT
ATGTGGTGACGCGATATTACAGAGCCCCTGAGGTCATCCTGGGCATGGGCTACAAGGAGAA
CGTGGACATATGGTCTGTGGGATGCATCATGGGAGAAATGGTTCGCCACAAAATCCTCTTT
CCCGGAAGGAGCTATATTGACCAGTGGAACAAAGTCATCGAGCAGCTAGGAACTCCGTGTC
CAGAGTTCATGAAGAAATTCAGCCCCACAGTCAGAACTACGTGGAGAATCGGCCCCAAGTA
CGCAGGACTCACCTTCCCCAAGCTCTTTCAGATTCCCTCTTCCAGCGGATTCTGAGCAC
AATAAACTTAAAGCCAGCCAAGCCAGGGATTTGTTGTCTAAGATGTTAGTGATTGACCCAG
TGAAGAGGATATCGGTGGACGACGCACTGCAGCATCCGTACATCAACGTTTGGTACGACCC
GGCTGAAGTGGAGGCGCCTCCGCCTCAGATATATGATAAGCAGCTGGATGAAAGGGAGCAC
ACCATCGAAGAATGGAAAGAACTTATCTACAAGGAGGTAATGAACTCAGAAGAGAAGACTA
AGAATGGCGTAGTCAAAAGCCAGCCCTCGCCTTCAGCACAGGTGCAGCAGTGAACAGCAGT
GAGAGTCTCCCTCCATCCTCGGCTGTCAACGACATCTCCTCCATGTCCACCGACCAGACCC
TCGCATCTGACACTGACAGCAGCCTGGAGGCCTCGGCGGGACCGTTGGGTTGTTGCAGGTG
ACTAGCCGCCTGCCTGCGAAACCCAGCGTTCTTCAGGAGATGACGCGATAGAACACAGCAC
ACATGCACACACACAGCTTGCTCTCACACACACTCAGCTTGCTCACACACACACACACA
TACACACAAACACACACTGTCTCTCTCTCACACACACACACTGTCACAACGCACTCACGAA
AGGTCAAGAAAAAATAACAATAGAGAGATCCAACATAAAATTAAGTTAAATTTTTCTGCG
TGCTTCTCCAAAGTTCTGTATCACAGCTGAGCTGAAATGTATACTTAACTTCTAGTTGCGC
TCGCTTTTGGTTTCCCTCCAGCAGTGCTTACTACACAAGACAAATCAGACACAATTAGAGAA
ACCTTTCCCTAAAGTGTAACCTTAAGTGGCTGCAGAACCAGCAACCTGTAACCTGCCCTTCAA
ATGGCATGAGGAGGTGGGCACGGGTCCCGCCCAGCATGTGTGTGTCTCTATCTCGCGTCTA
CCTGCTCTTCCGGCCTAGTCAGATGGATGTAGATACAGATCCCGCATGTGTCTGTATTCAA
ACAGCACTTAGAGATGCTCCTGTGAGTGTCTCCAGGCTCCACCAAGACACACACCGGGT
ACCACATGGTCCATTTTCATGTGATCTATTACTCTGACATAAATCCATCTGTAATATATTGC
CAGTATATAAGCTGTTTAGTTTGTAAATTGCTTAAGCTGTATGTCTTATAAGAGACTATGT
AAAGGGGGAAAATGGAGGCGTGAACCTCTCAGACCCTTGAAGATGTAGCTTCCGAATTTGAC
CGTTAAATGGCACCGTATACC (SEQ ID NO: 11)

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FIG. 5B

MSLHFLYYCSEPTLDVKIAFCQGFDKHVDVSSI AKHYNMSKSKVDNQFY SVEVG DSTFTVL
KRYQNLKPIGSGAQGIVCAAYDAVLDNRNVAIKKLSRPFQNO THAKRAYREL VLMKCVNHKN
IISLLNVFTPQKTLEEFQDVYLVME LMDANLCQVIQMEL DHERMSYLLYQMLCGIKHLHSA
GIIHRDLKPSNIVVKS DCTLKILDFGLARTAGTSFM MTPYVVTRY YRAPEVILGMGYKENV
DIWSVGCIMGEMVRHKILFPGRSYIDQWNKVIEQLGTPCPEFMKKLQPTVRNYVENRPKYA
GLTFPKLFPDSLFPADSEHNKLKASQARDLLSKMLVIDPVKRISVDDALQHPYINVWYDPA
EVEAPPPQIYDKQLDEREHTIEEWKELIYKEVMNSEEKTNGVVKSQPSPSAQVQQ (SEQ ID NO: 12)

SEQUENCE 1000

FIG. 6

JNK3 GENE LOCUS AND
TARGETING VECTOR

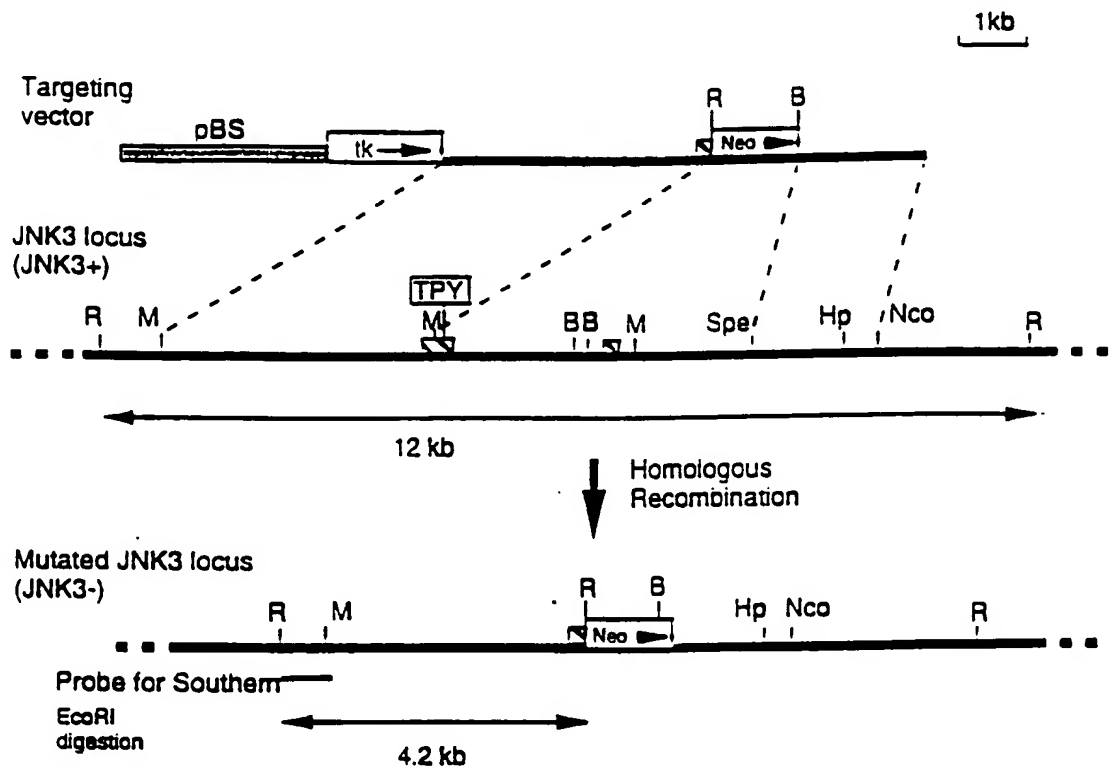


FIG. 7

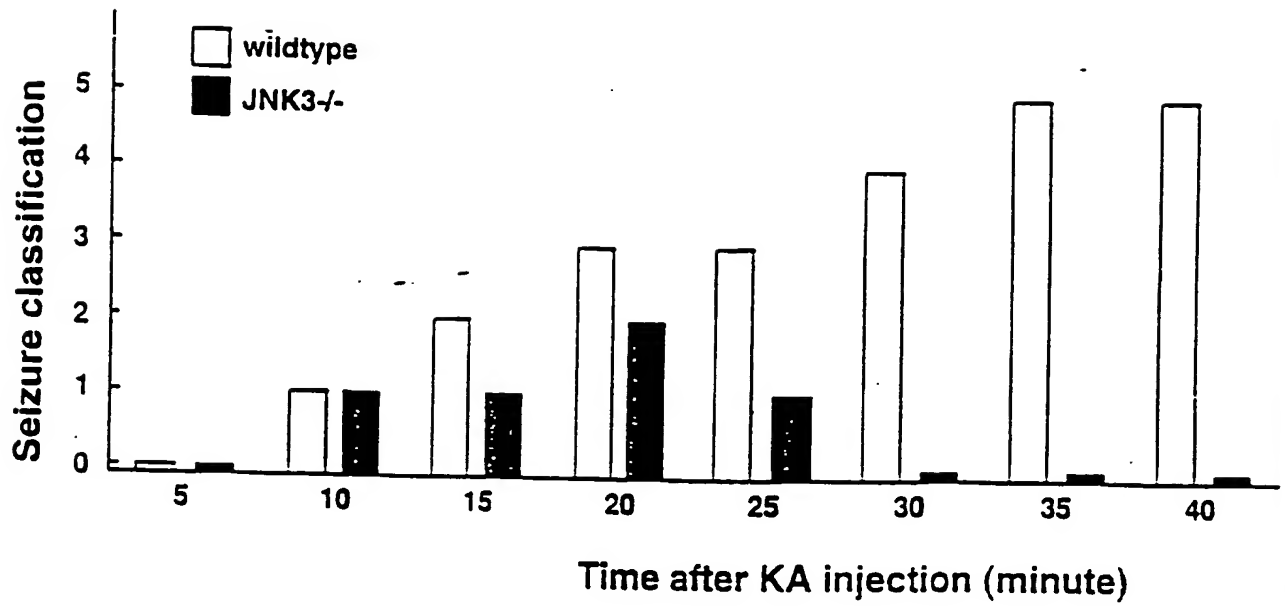


FIG. 8

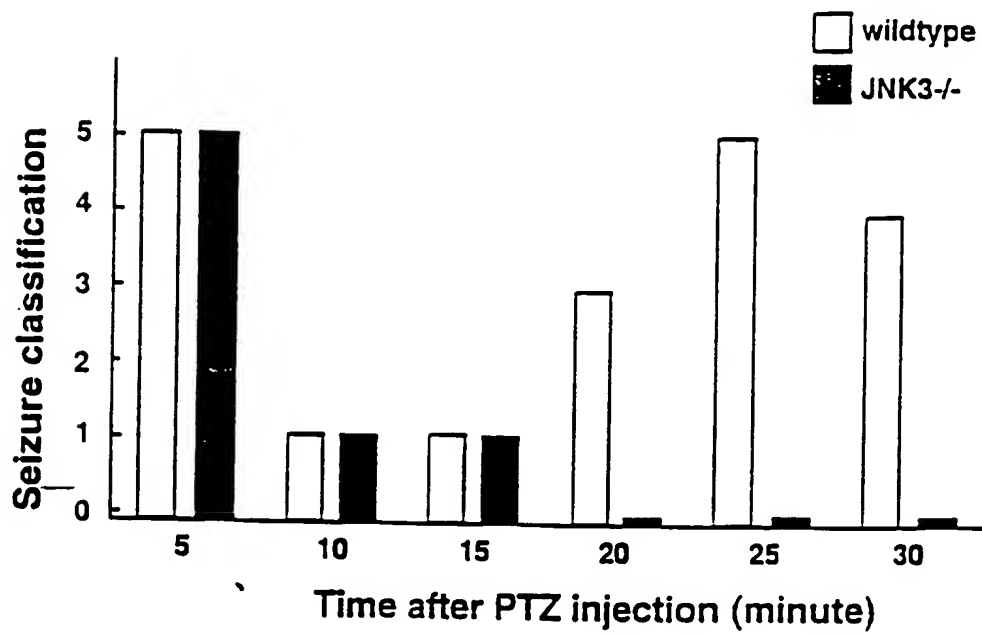


Fig. 9A

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Fig. 9B

MTAKMETTFYDDALNASFLQSESGAYGYSNPKILKQSMTLNLAD
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(SEQ ID NO:14)

BBEOT" EESST60

Fig. 10A

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Fig. 10B

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362007 223390

[illegible]

22

FIG. 11

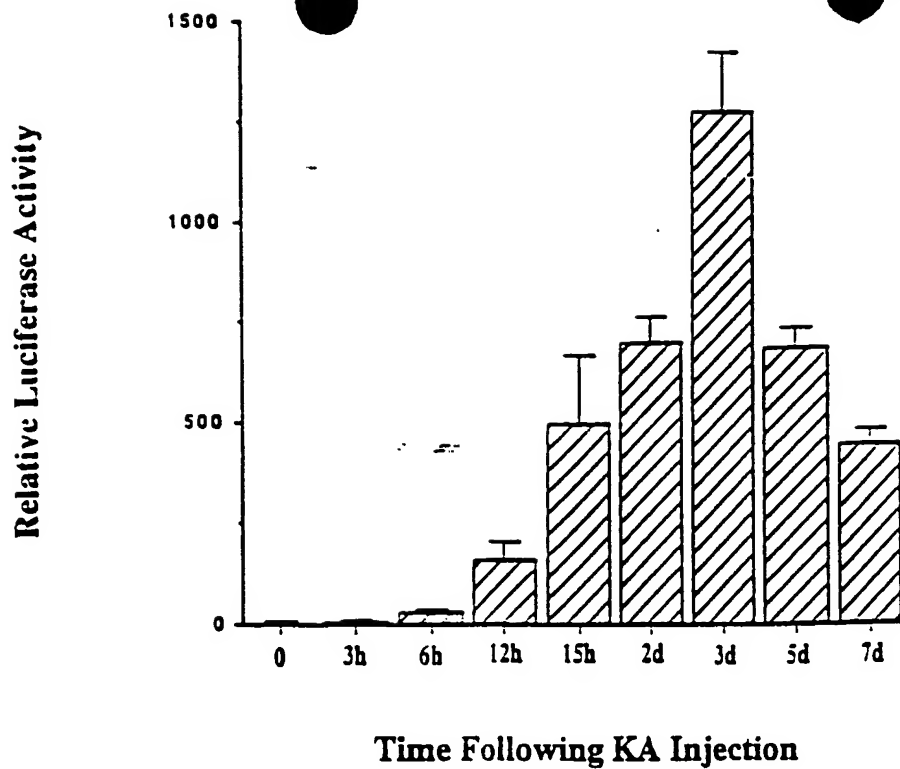


FIG. 12

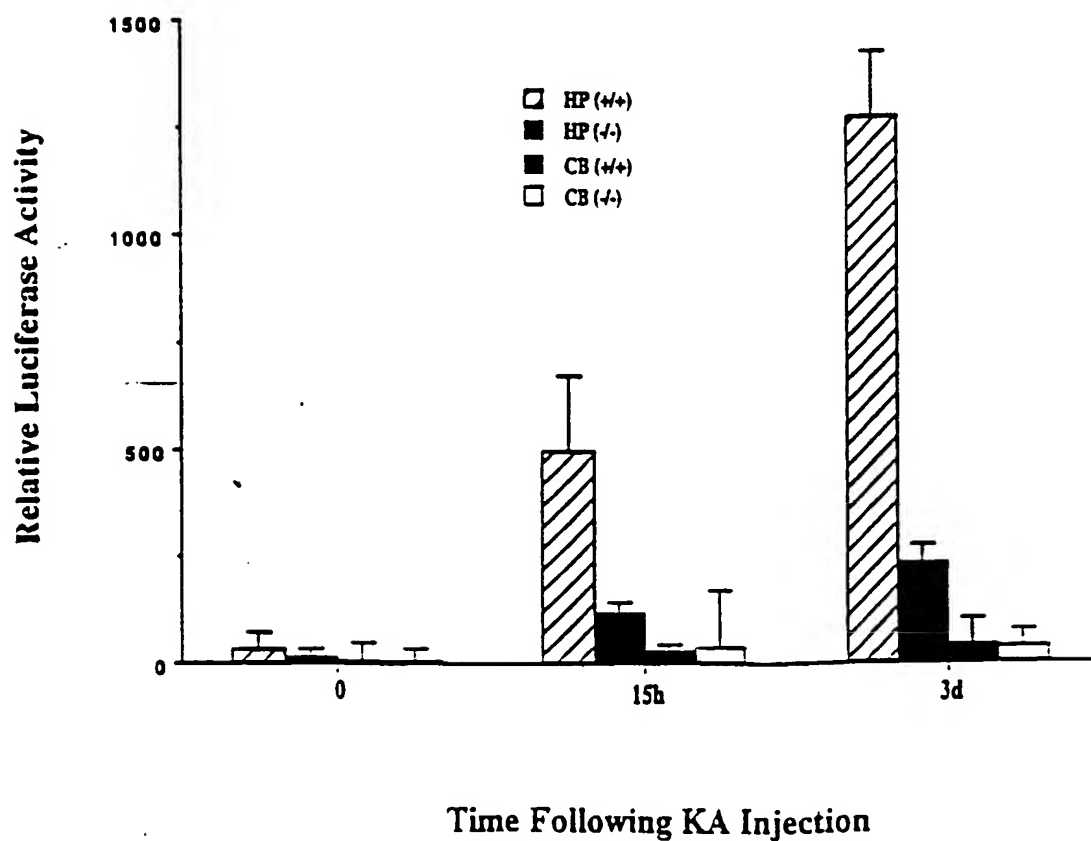


FIG. 13

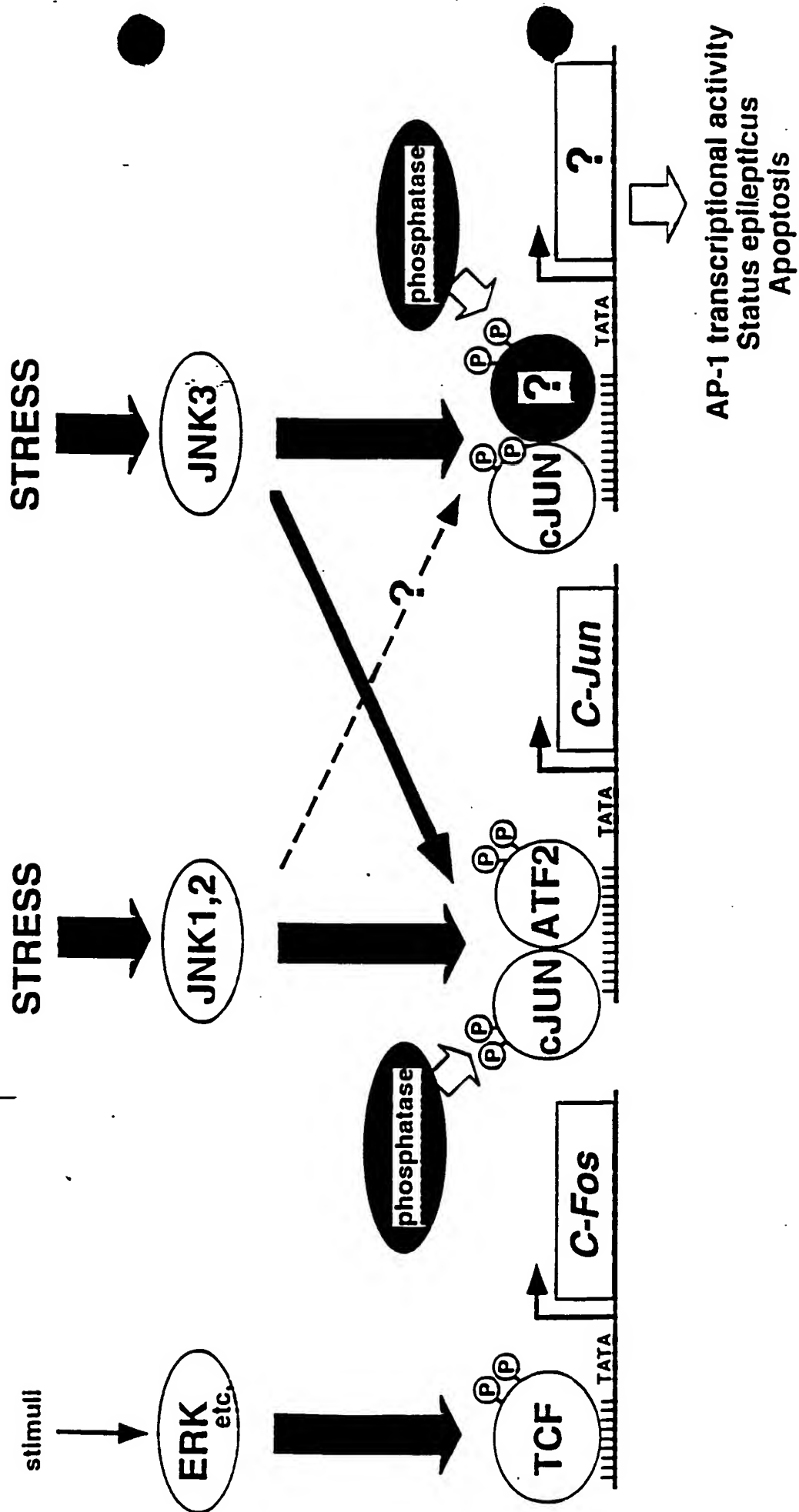


FIG. 14

